750M
Tier 4A (interim)
Crawler Dozer

PIN NCDC75000 and above; PIN NDDC70000 and above
PIN NEDC70000 and above; PIN NFDC70000 and above

SERVICE MANUAL

Part number 47907863
2nd edition English
September 2015
Replaces part number 47524260

CASE CONSTRUCTION

MidWestTech | Case 750M Tier 4A Crawler Dozer Service Manual | Publication 47907863
Order the manual at mid-west-tech.com >

Contents

INTRODUCTION

Maintenance 00

[00.150] Start-up 00.1

[00.AAA] Maintenance generic sub-group 00.2

Engine 10

[10.001] Engine and crankcase 10.1

[10.216] Fuel tanks 10.2

[10.206] Fuel filters 10.3

[10.202] Air cleaners and lines 10.4

[10.250] Turbocharger and lines 10.5

[10.501] Exhaust Gas Recirculation (EGR) exhaust treatment 10.6

[10.400] Engine cooling system 10.7

[10.414] Fan and drive 10.8

[10.310] Aftercooler 10.9

[10.304] Engine lubrication system 10.10

Power coupling 19

[19.100] Drive shaft 19.1

Hydrostatic drive 29

[29.218] Pump and motor components 29.1

[29.202] Hydrostatic transmission 29.2

Brakes and controls 33

[33.110] Parking brake or parking lock 33.1

[33.202] Hydraulic service brakes 33.2

Hydraulic systems 35

[35.000] Hydraulic systems 35.1

[35.300] Reservoir, cooler, and filters 35.2

MidWestTech | Case 750M Tier 4A Crawler Dozer Service Manual | Publication 47907... Order the manual at mid-west-tech.com >

[35.104] Fixed displacement pump 35.3
[35.359] Main control valve 35.4
[35.741] Dozer blade cylinders 35.5
[35.525] Auxiliary hydraulic valves and lines 35.6
Tracks and track suspension 48
[48.130] Track frame and driving wheels 48.1
[48.100] Tracks 48.2
[48.134] Track tension units 48.3
[48.138] Track rollers 48.4
[48.140] Dropbox and final drive 48.5
Cab climate control 50
[50.100] Heating 50.1
[50.104] Ventilation 50.2
[50.200] Air conditioning 50.3
Electrical systems 55
[55.000] Electrical system 55.1
[55.100] Harnesses and connectors 55.2
[55.015] Engine control system 55.3
[55.201] Engine starting system 55.4
[55.301] Alternator 55.5
[55.302] Battery 55.6
[55.202] Cold start aid 55.7
[55.011] Fuel tank system 55.8
[55.014] Engine intake and exhaust system 55.9
[55.030] Service brake electrical system 55.10
[55.512] Cab controls 55.11
[55.050] Heating, Ventilation, and Air-Conditioning (HVAC) control system 55.12
[55.518] Wiper and washer system 55.13

MidWestTech | Case 750M Tier 4A Crawler Dozer Service Manual | Publication 47907... Order the manual at mid-west-tech.com >

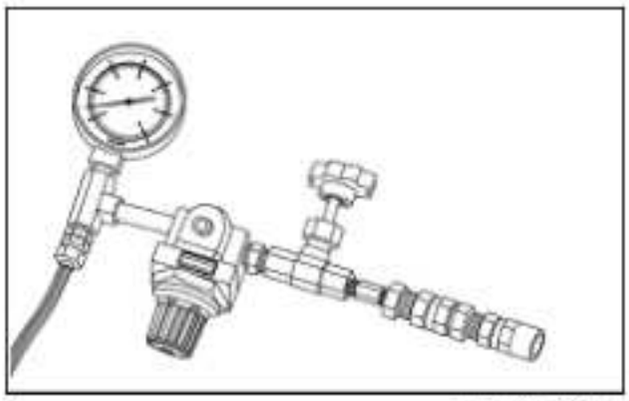
[55.408] Warning indicators, alarms, and instruments 55.14
[55.989] Exhaust Gas Recirculation (EGR) electrical system 55.15
[55.DTC] FAULT CODES 55.16
Lubrication system 71
[71.460] Grease lubrication system 71.1
Dozer blade and arm 86
[86.110] Dozer blade 86.1
Tools 89
[89.128] Ripper assembly 89.1
Platform, cab, bodywork, and decals 90
[90.151] Cab interior 90.1
[90.154] Cab doors and hatches 90.2
[90.120] Mechanically-adjusted operator seat 90.3
[90.124] Pneumatically-adjusted operator seat 90.4
[90.110] Operator platform less cab 90.5

MidWestTech | Case 750M Tier 4A Crawler Dozer Service Manual | Publication 47907... Order the manual at mid-west-tech.com >

Idler wheel - Leakage test

750M

1. Connect the shutoff valve to the CAS 1450 pressure regulator valve. Connect a fitting for the air supply hose to the shutoff valve.



RDHIBOWL451AAD 1

2. Install the adapter and quick disconnect fitting in the oil drain hole in the idler wheel. Use a seal washer with the adapter.
3. Turn the knob counterclockwise to close the pressure regulator valve.
4. Connect the line from the pressure gauge to the quick disconnect fitting in the idler wheel.
5. Make sure that the shutoff valve is open.
6. Open the pressure regulator valve until the pressure gauge indicates 172 kPa (25 psi).
7. Use the bracket and turn the shaft three to ten revolutions.
8. Close the pressure regulator valve until the pressure gauge indicates 110 kPa (15 psi).
9. Close the shutoff valve. The idler must hold this pressure for 10 seconds. Loss of air pressure during this time indicates a bad part or wrong assembly.

MidWestTech | Case 750M Tier 4A Crawler Dozer Service Manual | Publication 47907... Order the manual at mid-west-tech.com >

Harnesses and connectors - Electrical schematic sheet 09 – UCM (55.100-C.20.E.09)
Harnesses and connectors - Electrical schematic sheet 21 – Drive Train \ Pumps (55.100-C.20.E.21)

MidWestTech | Case 750M Tier 4A Crawler Dozer Service Manual | Publication 47907... Order the manual at mid-west-tech.com >

3811-ECU sensor supply monitor : ECU internal: Error sensor supplies 1

750M

Context:
The Engine Control Unit (ECU) provides 3 independent **5.0 V** voltage supplies for the sensors. These sensor supply voltages are monitored to ensure they remain within a given range. This check for voltage limits is done autonomously by the hardware.

Cause:
The sensor supply voltage lies outside of the switching thresholds.

Possible failure modes:

1. Faulty wiring.
2. Faulty battery.
3. Faulty ECU.

Solution:

1. Verify the fault is still active and present.

   A. If the fault is still active, continue with Step **3**.

   B. If the fault is not present, the fault may be intermittent. Check for an intermittent fault. If no faults are found, clear the fault code. Return the machine to service.
2. Check for fault codes related to the oil pressure sensor.

   Check for fault codes related to the Throttle Valve Actuator (TVA) position sensor.

   Check for fault codes related to the Exhaust Gas Recirculation (EGR) position sensor.

   Check for fault codes related to the boost pressure sensor.

   Check for fault codes related to the rail pressure sensor.

   Check for fault codes related to the exhaust gas pressure sensor.

   Check for fault codes related to the camshaft speed sensor.

   A. If other fault codes are not present, continue with Step **3**.

   B. If any other fault codes are present, troubleshoot that fault first. Then determine if this fault code has been corrected.
3. Verify the wiring harness and connectors are not damaged.

   Inspect the wiring harness from the ECU to the battery.

   Check that the wiring harness is free of damage, corrosion, abrasion and incorrect attachment.

   A. If the connectors are secure and the wiring harness is free of damage, continue with Step **4**.

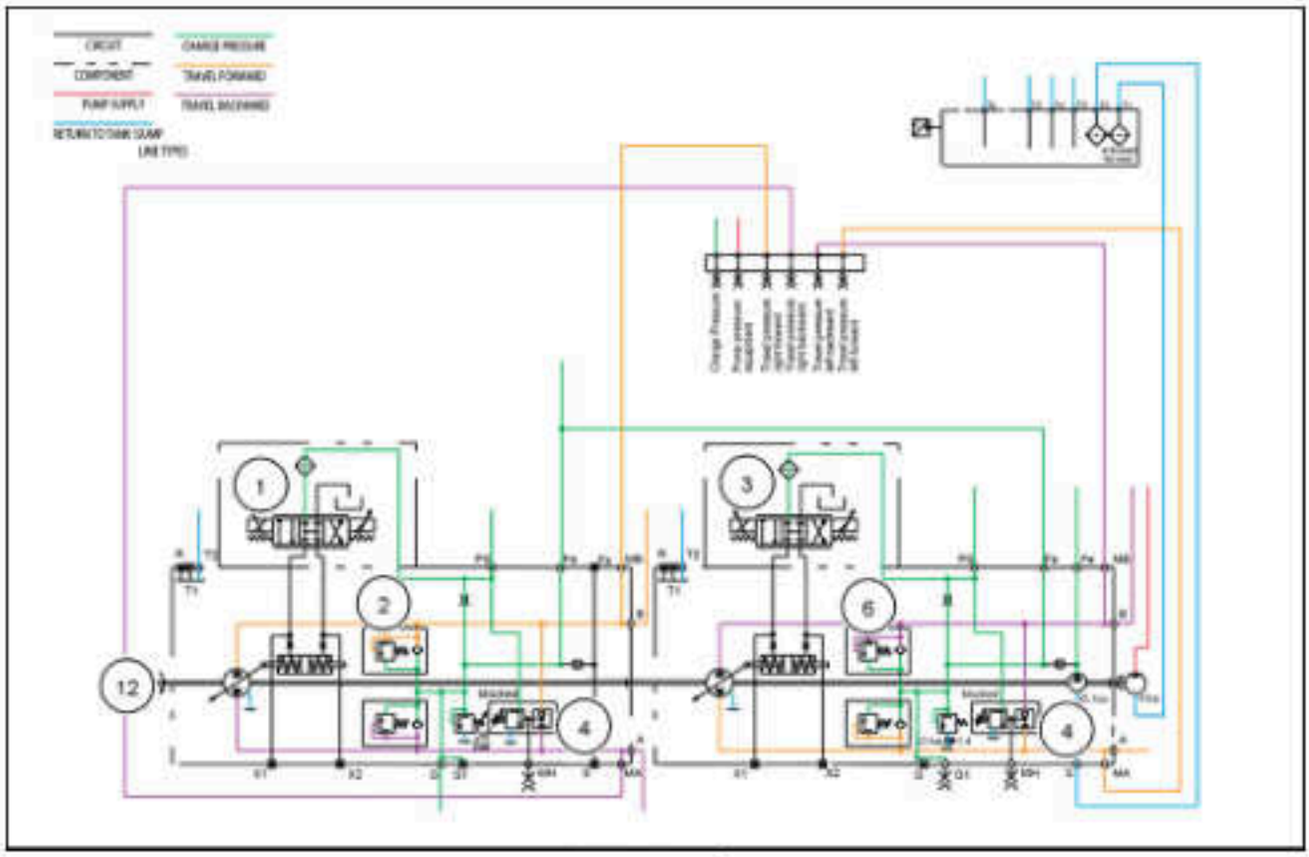
   B. If damage is found to the wiring harness or connectors, repair or replace as required.
4. Check the voltage input to the ECU.

   Place the key switch OFF.

   Disconnect the wiring harness from the ECU.

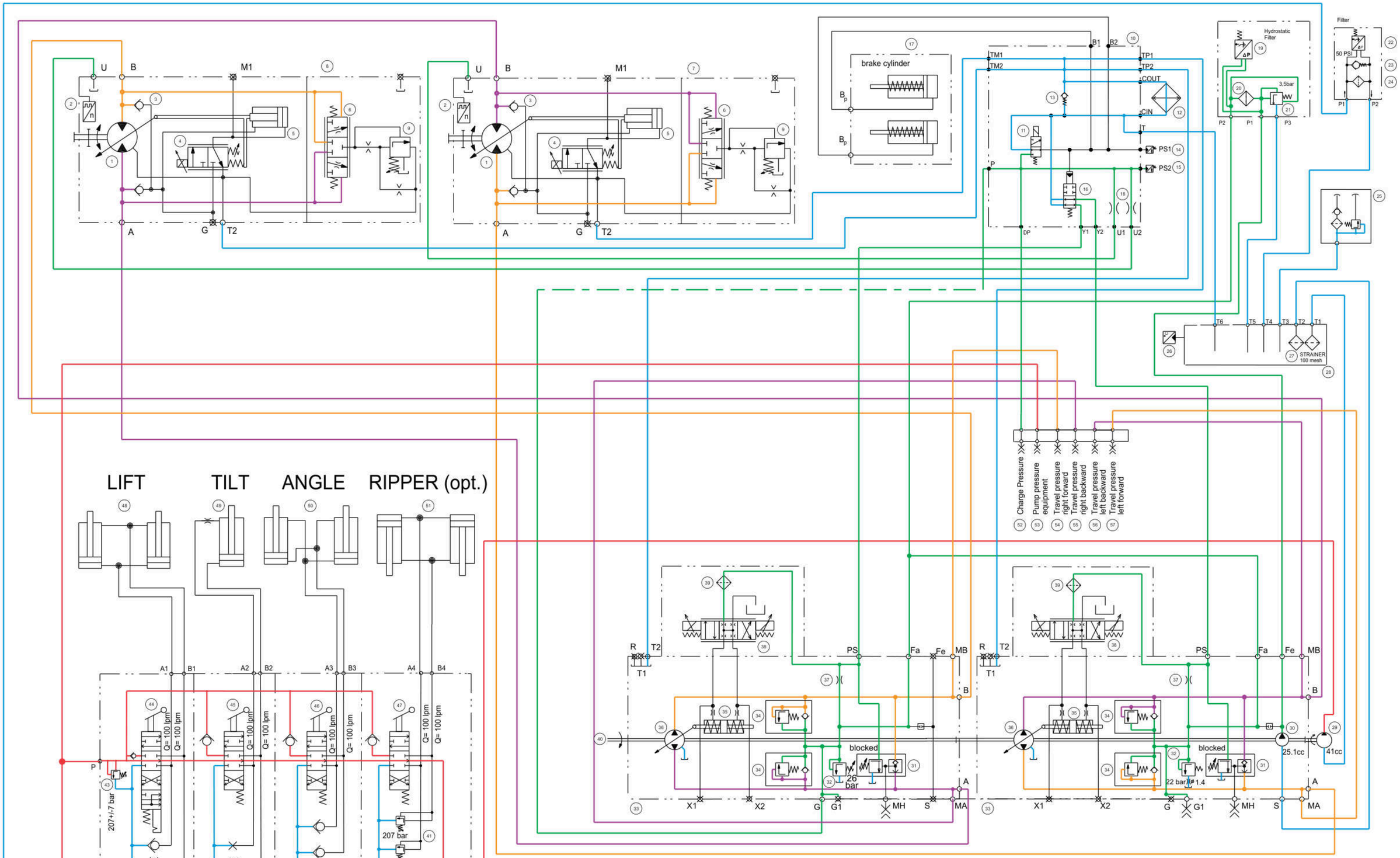
   Place the key switch ON.

MidWestTech | Case 750M Tier 4A Crawler Dozer Service Manual | Publication 47907... Order the manual at mid-west-tech.com >



RAILTDOZ1488FA 2

MidWestTech | Case 750M Tier 4A Crawler Dozer Service Manual | Publication 47907... Order the manual at mid-west-tech.com >



ITEM #	DESCRIPTION	ITEM #	DESCRIPTION	ITEM #	DESCRIPTION	ITEM #	DESCRIPTION
1	TRACK DRIVE MOTOR	16	NEUTRAL OVERRIDE VALVE	31	HIGH PRESSURE CUTOFF	46	ANGLE SPOOL
2	TRACK DRIVE MOTOR SPEED SENSOR	17	PARK BRAKE RELEASE PISTON	32	CHARGE PRESSURE RELIEF	47	RIPPER SPOOL
3	MOTOR CONTROL CHECK VALVE	18	MOTOR COOLING ORIFICE	33	TANDEM PUMP ASSEMBLY	48	LIFT CYLINDERS
4	TRAVEL SPEED CONTROL VALVE	19	CHARGE FILTER PRESSURE SWITCH	34	HIGH PRESSURE RELIEF \ CHECK VALVE	49	TILT CYLINDER
5	MOTOR SPEED CONTROL PISTON	20	CHARGE FILTER	35	PUMP CONTROL PISTON	50	ANGLE CYLINDERS
6	MOTOR FLUSHING VALVE	21	CHARGE FILTER BYPASS VALVE	36	TRACK DRIVE PUMPS	51	RIPPER CYLINDERS
7	LEFT TRACK DRIVE MOTOR ASSEMBLY	22	HYDRAULIC FILTER PRESSURE SWITCH	37	PUMP SPEED CONTROL ORIFICE	52	CHARGE PRESSURE - TEST POINT
8	RIGHT TRACK DRIVE MOTOR ASSEMBLY	23	HYDRAULIC FILTER BYPASS VALVE	38	PUMP CONTROL SOLENOID VALVE	53	PUMP PRESSURE EQUIPMENT - TEST POINT
9	MOTOR FLUSHING VALVE FLOW CONTROL	24	HYDRAULIC FILTER	39	SCREEN	54	TRAVEL PRESSURE RIGHT FORWARD - TEST POINT
10	BRAKE RELEASE (MULTIFUNCTION) VALVE	25	RESERVOIR PRESSURE CAP	40	CONNECTION TO ENGINE	55	TRAVEL PRESSURE RIGHT BACKWARD - TEST POINT
11	PARK BRAKE RELEASE SOLENOID	26	RESERVOIR TEMPERATURE SENSOR	41	CIRCUIT RELIEF	56	TRAVEL PRESSURE LEFT BACKWARD - TEST POINT
12	OIL COOLER	27	RESERVOIR SUCTION SCREEN	42	EQUIPMENT VALVE	57	TRAVEL PRESSURE LEFT FORWARD - TEST POINT
13	OIL COOLER BYPASS	28	HYDRAULIC RESERVOIR	43	MAIN PRESSURE RELIEF VALVE		
14	BRAKE RELEASE PRESSURE SWITCH	29	EQUIPMENT HYDRAULIC PUMP	44	LIFT SPOOL		
15	CHARGE PRESSURE SWITCH	30	CHARGE PUMP	45	TILT SPOOL		

SHOWS CIRCUIT CROSSING NOT CONNECTED

SHOWS CIRCUIT CONNECTED

CIRCUIT DIAGRAM LEGEND

CHECK VALVE

RESTRICTOR

FILTER OR SCREEN

OIL COOLER

CIRCUIT

COMPONENT

PUMP SUPPLY

RETURN TO TANK \ SUMP

LINE TYPES

CHARGE PRESSURE

TRAVEL FORWARD

TRAVEL BACKWARD

CONVERSION INFORMATION

1 bar = 14.5 pounds per square inch (PSI)

1 liter per minute = .264 gallons per minute

HYDRAULIC SCHEMATIC
750M DOZER Tier 4A (interim)

Additional copies of this Schematic can be ordered through Technical Publications Distribution System. Part # RAC 47907880 (replaces RAC 47524261)

Order the manual at mid-west-tech.com >